Brian Tieu

brian517t@gmail.com · (904) 258-0642
briantieu.github.io · linkedin.com/in/briantieu

EDUCATION

Princeton University May 2023
Bachelor of Science in Computer Science with *High Honors* 3.91 GPA

- **Awards:** Shapiro Prize for Academic Excellence (2021), Computer Science Service Award (2023)
- **Coursework**: Programming Systems, Distributed Systems, Information Security, Computer Graphics, Web Applications, AR & VR, Computational Economics, Data Structures & Algorithms, Contemporary Logic Design, Discrete Mathematics, Web3 & Blockchain

WORK EXPERIENCE

Google May 2022 – Aug 2022
Software Engineer Intern Sunnyvale, CA

- Exposed and quantified wasted energy across Google Cloud's global fleet of data centers by developing a Java service to collect energy measurements and calculate "stranded power"—power that is reserved for use, but is ultimately unused—for every cluster of breadboards
- Allowed effortless visualization of the impact of stranded power by building a dashboard to display daily metrics and long-term trends
- Enabled efficient storage and lookup of historical data snapshots by writing a custom Spanner database schema and read/write functions
- Reduced service runtime by over 500% by using concurrent programming and batching to streamline collection of large amounts of data

Microsoft May 2021 – Aug 2021
Software Engineer Intern Redmond, WA

- Enabled live video streaming from Microsoft Teams to four third-party platforms by developing four Teams meeting extensions in React
- Built features to start/stop streaming, generate and access livestream links, and securely authenticate users, using third-party REST APIs
- Created a robust user experience by designing high-fidelity user flows in Figma and implementing software localization for accessibility

Nautilus Software Technologies Dec 2020 – Jan 2021
Software Engineer Intern Remote

- Developed a chatbot using JavaScript designed to teach Boolean algebra to grade school students, with three selectable levels of difficulty

Princeton University Computer Science Department Sep 2020 – May 2022
Computer Science Teaching Assistant Princeton, NJ

- Solidified over 30 students' understandings of algorithms and data structures by preparing and teaching weekly small-group sections
- Assisted 100+ students in debugging their Java programming assignments during dedicated one-on-one office hours, for 4 hours per week

The Daily Princetonian Newspaper Sep 2020 – Jan 2023
Head Web Development Editor Princeton, NJ

- Oversaw and developed dynamic newsworthy web projects using HTML, CSS, JavaScript, and React, with 4000+ monthly visitors
- Supervised production of 40 web projects over two-year tenure as Head Editor, and trained 25 staffers in web development fundamentals

PROJECTS

Raft Distributed Consensus Algorithm Dec 2022

- Implemented Raft, a distributed consensus algorithm with leader election and log replication, in Go
- Maintained strong consistency and partition- and fault-tolerance across 10+ servers, while enduring simulated network failures

Augmented Reality Live Captioning Dec 2022

- Transformed Google Glass into a real-time speech transcription and translation tool by leveraging Web Speech and Google Translate APIs
- Developed Android application to process Glass's hardware gestures. Built separate Flask web application to record and translate speech

Princeton Laboratory Energy Monitor Dec 2021

- Enabled researchers to monitor laboratory energy consumption by developing a Flask web application, shown on wall-mounted display
- Developed features to display and print weekly reports, convert kilowatt values to US dollar equivalent, and toggle stateful dark mode

Princeton University 2021 Commencement Issue *(1st place web project, NJPF College Newspaper Contest)* May 2021

- Developed a web project compiling 97 news articles reflecting on the Class of 2021's four years using HTML, CSS, and JavaScript
- Designed and implemented paginated media gallery, sticky sidebar, and interactive, auto-scrolling Class of 2021 graduate names list

SKILLS

Languages: Java, Python, JavaScript, TypeScript, HTML, CSS, SQL, C, Go
Frameworks & Tools: Flask, React, Figma, Git, jQuery, Node.js, Bootstrap, gRPC, JUnit, Jest, Mockito, Guice